

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A manifold system for biotechnology uses, comprising:

a manifold unit which is pre-sterilized and disposable so as to be adapted for single-time usage, including:

- (a) at least one length of tubing having at least one inlet end portion, at least one outlet end portion, an outside surface, and an inside surface which is sterilized for passage of a biotechnology fluid therethrough,
- (b) at least one single-use bag having a primary access port, and
- (c) an aseptic connector means for operatively connecting said length of tubing with said primary access port of the single-use bag; and

a plurality of pinch valves, at least one of which is remotely operable in response to a signal remote from said pinch valve, each said pinch valve engages said outside surface of the length of tubing at a discrete location therealong, each said pinch valve independently selectively allowing or stopping flow of the biotechnology fluid through said inside surface of the length of tubing at said discrete location for that pinch valve.

2. (Original) The manifold system in accordance with claim 1, wherein said primary access port of the single-use bag includes a shut-off clamp.
3. (Original) The manifold system in accordance with claim 1, wherein said single-use bag further includes access port means for releasing gas or pressure build-up from said bag.
4. (Original) The manifold system in accordance with claim 1, wherein said single-use bag further includes an auxiliary access port.
5. (Original) The manifold system in accordance with claim 1, wherein said single-use bag further includes access port means for releasing gas or pressure build-up from said bag and further includes an auxiliary access port.
6. (Original) The manifold system in accordance with claim 5, further including a shut-off clamp for said access port means and for said auxiliary access port.
7. (Original) The manifold system in accordance with claim 1, further including a single-use sterilizing filter positioned along said length of tubing such that the biotechnology fluid flows therethrough at a location upstream of said outlet and portion.
8. (Original) The manifold system in accordance with claim 1, wherein said system is for automated aseptic fluid transfer,

wherein said outlet end portion of the tubing has a plurality of serially arranged outlet passageways having one of said aseptic connector means for operable connection with said single-use bag, and wherein each said pinch valve controls passage of the biotechnology fluid from the tubing to the single-use bag.

9. (Original) The manifold system in accordance with claim 8, further including a single-use sterilizing filter positioned along said length of tubing such that the biotechnology fluid flows therethrough at a location upstream of said outlet end portion.

10. (Original) The manifold system in accordance with claim 8, further including a disposable pressure sensor positioned along said length of tubing such that the biotechnology fluid flows therethrough at a location upstream of said outlet end portion.

11. (Original) The manifold system in accordance with claim 9, further including a disposable pressure sensor positioned along said length of tubing such that the biotechnology fluid flows therethrough at a location downstream of said sterilizing filter and upstream of said outlet end portion.

Claims 12 through 19 (Cancelled).

20. (Original) A manifold system for biotechnology uses, wherein said system is for automated, aseptic fluid transfer, comprising:

a manifold unit which is pre-sterilized and disposable so as to be adapted for single-time usage, including:

- (a) at least one length of tubing having at least one inlet end portion, at least one outlet end portion, an outside surface, and an inside surface which is sterilized for passage of a biotechnology fluid therethrough,
- (b) a plurality of single-use bags, each having a primary access port,
- (c) aseptic connector means for operatively connecting said length of tubing with said primary access port of at least one of said single-use bags, and
- (d) said outlet end portion of the tubing has a plurality of serially arranged outlet passageways having one of said aseptic connector means for operable connection with said single-use bag; and

a plurality of pinch valves, at least one of which is remotely operable in response to a signal remote from said pinch valve, each said pinch valve engages said outside surface of the length of tubing at a discrete location therealong, each said pinch valve independently selectively allowing or stopping flow of the biotechnology fluid through said inside surface of the length of tubing at said discrete location for that pinch valve, and wherein each said pinch valve controls passage of the biotechnology fluid from the tubing to each said single-use bag.

21. (Original) The manifold system in accordance with claim 20, further including a single-use sterilizing filter positioned

along said tubing such that the biotechnology fluid flows therethrough at a location upstream of said outlet passageways.

22. (Original) The manifold system in accordance with claim 20, further including a disposable pressure sensor positioned along said tubing such that the biotechnology fluid flows therethrough at a location upstream of said outlet passageways.

23. (Original) The manifold system in accordance with claim 21, further including a disposable pressure sensor positioned along said tubing such that the biotechnology fluid flows therethrough at a location downstream of said sterilizing filter and upstream of said outlet passageways.

24. (Original) The manifold system in accordance with claim 20, wherein said primary access port of the single-use bag includes a shut-off clamp.

25. (Original) The manifold system in accordance with claim 20, wherein said single-use bag further includes access port means for releasing gas or pressure build-up from said bag.

26. (Original) The manifold system in accordance with claim 20, wherein said single-use bag further includes an auxiliary access port.

27. (Original) The manifold system in accordance with claim 20, wherein said single-use bag further includes access port

means for releasing gas or pressure build-up from said bag and further includes an auxiliary access port.

28. (Original) The manifold system in accordance with claim 27, further including a shut-off clamp for said access port means and for said auxiliary access port.

Claims 29 through 46 (Cancelled)

47. (Original) A manifold and pump system for biotechnology uses, comprising:

a manifold unit which is pre-sterilized and disposable so as to be adapted for single-time usage, including:

- (a) at least one length of tubing having at least one inlet end portion, at least one outlet end portion, an outside surface, and an inside surface which is sterilized for passage of a biotechnology fluid therethrough,
- (b) at least one single-use bag having an access port, and
- (c) an aseptic connector means for operatively connecting said length of tubing with said access port of the single-use bag;

a plurality of pinch valves, at least one of which is remotely operable in response to a signal remote from said pinch valve, each said pinch valve engages said outside surface of the length of tubing at a discrete location therealong, each said pinch valve independently selectively allowing or stopping flow of the biotechnology fluid through said inside surface of the

length of tubing at said discrete location for that pinch valve; and

a pump unit which engages said outside surface of the length of tubing at a selected location upstream of said discrete location for the pinch valve.

48. (Original) The manifold and pump system in accordance with claim 47, further including a controller which controls operation of said pump unit and of said pinch valve.

49. (Original) The manifold and pump system in accordance with claim 48, wherein said controller is a programmable unit.

50. (Original) The manifold and pump system in accordance with claim 48, wherein said controller is programmable and is included in said pump unit.

51. (Original) The manifold and pump system in accordance with claim 47, wherein said pinch valve is pneumatically operated.

52. (Original) The manifold and pump system in accordance with claim 47, wherein said pinch valve is electronically operated.

53. (Original) A manifold and pump system for biotechnology uses, wherein said system is for automated, aseptic fluid transfer, comprising:

a manifold unit which is pre-sterilized and disposable so as to be adapted for single-time usage, including:

- (a) at least one length of tubing having at least one inlet end portion, at least one outlet end portion, an outside surface, and an inside surface which is sterilized for passage of a biotechnology fluid therethrough,
- (b) a plurality of single-use bags, each having an access port,
- (c) aseptic connector means for operatively connecting said length of tubing with said access port of at least one of said single-use bags, and
- (d) said outlet end portion of the tubing has a plurality of serially arranged outlet passageways having one of said aseptic connector means for operable connection with said single-use bag;  
a plurality of pinch valves, at least one of which is remotely operable in response to a signal remote from said pinch valve, each said pinch valve engages said outside surface of the length of tubing at a discrete location therealong, each said pinch valve independently selectively allowing or stopping flow of the biotechnology fluid through said inside surface of the length of tubing at said discrete location for that pinch valve, and wherein each said pinch valve controls passage of the biotechnology fluid from the tubing to each said single-use bag; and  
a pump unit which engages said outside surface of the length of tubing at a selected location upstream of said discrete location for the pinch valve.

Claims 54 through 55 (Cancelled)

56. (Original) An automated manifold and pump system for biotechnology uses, comprising:

a manifold unit which is pre-sterilized and disposable so as to be adapted for single-time usage, including:

- (a) at least one length of tubing having at least one inlet end portion, at least one outlet end portion, an outside surface, and an inside surface which is sterilized for passage of a biotechnology fluid therethrough,
- (b) at least one single-use bag having an access port, and
- (c) an aseptic connector means for operatively connecting said length of tubing with said single-use bag;

a plurality of pinch valves, at least one of which is remotely operable, and each said pinch valve engages said outside surface of the length of tubing;

a pump unit which engages said outside surface of the length of tubing at a selected location upstream of said pinch valve; and

a controller which controls operation of said pump unit and of said pinch valve, said controller having control logic which dictates the timing of opening and closing of said remotely operable pinch valve.

57. (Original) The automated system in accordance with claim 56, wherein said control logic of the controller determines the extent of filling of the single-use bag by processing data

monitored by the system to achieve filling of the single-use bag by volume, by weight, or by pump rate and filling time.

58. (Original) The automated system in accordance with claim 56, wherein said control logic of the controller dictates the rate of pumping of said pump unit.

59. (Original) An automated manifold and pump system for biotechnology uses, wherein said system is for automated, aseptic fluid transfer, comprising:

a manifold unit which is pre-sterilized and disposable so as to be adapted for single-time usage, including:

- (a) at least one length of tubing having at least one inlet end portion, at least one outlet end portion, an outside surface, and an inside surface which is sterilized for passage of a biotechnology fluid therethrough,
  - (b) a plurality of single-use bags, each having an access port,
  - (c) an aseptic connector for operatively connecting said length of tubing with said access port of at least one of said single-use bags, and
  - (d) said outlet end portion of the tubing has a plurality of serially arranged outlet passageways having one of said aseptic connectors for operable connection with said single-use bag;
- a plurality of pinch valves, at least one of which is remotely operable, and each said pinch valve engages said outside surface of the length of tubing at a discrete location

therealong and controls passage of the biotechnology fluid from the tubing to each said single-use bag;

a pump unit which engages said outside surface of the length of tubing at a selected location upstream of said discrete location for the pinch valve; and

a controller which controls operation of said pump unit and of said pinch valve, said controller having control logic which dictates the timing of opening and closing of said remotely operable pinch valve.

60. (Original) The automated system in accordance with claim 59, wherein said control logic of the controller dictates the rate of pumping of said pump unit.

61. (Original) The automated system in accordance with claim 59, wherein said control logic of the controller determines the extent of filling of the single-use bag by processing data monitored by the system to achieve filling of the single-use bag by volume, by weight, or by pump rate and filling time.

62. (Original) The automated system in accordance with claim 59, wherein said control logic activates pumping action of said pump unit and opens a first remotely operable pinch valve for a length of time needed to pump a selected volume or weight of biotechnology fluid into a first said single-use bag associated with said first remotely operable pinch valve, wherein said control logic activates pumping action of said pump unit and opens a second remotely operable pinch valve for a length of time needed to pump a selected volume or weight of

biotechnology fluid into a second said single-use bag associated with said second remotely operable pinch valve, and wherein said control logic activates pumping action of said pump unit and opens a further remotely operable pinch valve for a length of time needed to pump a selected volume or weight of biotechnology fluid into a further said single-use bag associated with said second remotely operable pinch valve until a user-selected number of single-use bags are filled.

63. (Original) The automated system in accordance with claim 59, wherein said control logic activates pumping action of said pump unit and opens a first remotely operable pinch valve for a length of time needed to pump a selected volume or weight of biotechnology fluid into a first said single-use bag associated with said first remotely operable pinch valve, and wherein said control logic activates pumping action of said pump unit and opens a further remotely operable pinch valve for a length of time needed to pump a selected volume or weight of biotechnology fluid into a further said single-use bag associated with said second remotely operable pinch valve until a user-selected number of single-use bags are filled.

Claims 64 through 77 (Cancelled)